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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,069	02/01/2001	Gerard A. Mourou	UMJ-939-R	1906

7590 03/15/2005

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EXAMINER
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EVANS, GEOFFREY S

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/775,069

Applicant(s)

MOUROU ET AL.

Examiner

Geoffrey S Evans

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 46-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 46-61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20040721.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This action is in response to the petition reviving this application on 6 May 2004.
2. In accordance with 37 CFR 1.175(b)(1), a supplemental reissue oath/declaration under 37 CFR 1.175(b)(1) must be received before this reissue application can be allowed.

Claims 46-67 are rejected as being based upon a defective reissue declaration under 35 U.S.C. 251. See 37 CFR 1.175. The nature of the defect is set forth above.

Receipt of an appropriate supplemental oath/declaration under 37 CFR 1.175(b)(1) will overcome this rejection under 35 U.S.C. 251. An example of acceptable language to be used in the supplemental oath/declaration is as follows:

"Every error in the patent which was corrected in the present reissue application, and is not covered by a prior oath/declaration submitted in this application, arose without any deceptive intention on the part of the applicant."

3. In response to the PROTEST of 11 June 2003, in general it is not persuasive. The phrase "directing the beam to the material" has support in figures 1 and 6A. Clearly the beam cannot be focused on or beneath the beam without directing the laser beam to the workpiece. The Protestor's further argument that "focusing said beam to a point at or beneath the surface of the material" is an essential element of the invention is incorrect. In contrast, the specification clearly describes to one of ordinary skill in the art that it is not the degree of focus that causes ablation, it is the fluence (Joules/cm<sup>2</sup>) level that controls ablation for a given pulse width (see column 5, lines 60-65 and column 6, lines 1-3 of Mourou et al. in U.S. Patent No. 5,656,186, in which the area of fluence is smaller than the beam spot size, i.e. focus). Mourou et al. in U.S. Patent No. 5,656,186

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further describes in column 6, lines 42-49 alternative configurations for practicing the invention in which not all of the descriptions require focusing the beam. Since Mourou et al. refers in column 4 of the specification to previous U.S. Patent No. 5,235,606 (in which femtosecond pulses are emitted with an average energy of up to 15 Joules), it is within the level of ordinary skill in the art at the time the invention was made to use a laser cavity designed to emit a collimated beam with a fluence of at least  $1\text{-}5\text{ J/cm}^2$  to practice the instant invention without focusing the beam after it exits the laser cavity. However in claim 62 recitation of "scanning the beam along a predetermined path beneath the surface of the material..." requires focusing since to direct the laser beam so it is beneath the surface of the workpiece is only supported sufficiently in the originally filed specification by focusing the laser beam beneath the surface of the material and also for a "Rayleigh range" to exist the beam must be focused.

4. Claims 62 and 67 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claim 62 there is no disclosure of focusing the beam, but that is the only method disclosed in U.S. Patent No. 5,656,186 for directing the beam "beneath the surface of the material ...". Regarding claim 67, there is no disclosure in the originally filed specification that any of the wavelengths has a "central wavelength".

5. Claims 46-67 are rejected as being based upon a defective reissue declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

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The nature of the defect(s) in the declaration is set forth in the discussion above in this Office action.

Receipt of an appropriate supplemental oath/declaration under 3 CFR


1.175(b)(1) will overcome this rejection under 35 U.S.C. 251.

6. The Srinivasan et al. article " Ablation and etching of polymethylmethacrylate by very short (160 fs) ultraviolet (308 nm) laser pulses" (cited on the IDS of paper no. 20040721) discloses a fluence level for laser etching only up to 2.5 J/cm<sup>2</sup> article.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S Evans whose telephone number is (571)-272-1174. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571)-272-1171. The fax phone number for the organization where this application or proceeding is assigned is (703)-872-9306.

GSE

  
Geoffrey S. Evans  
Primary Examiner  
Group 1700